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Background

Cassava is a staple food crop that plays a big role in the livelihoods of over 80% of the households in Uganda. Its production faces constraints from a number of pests and diseases, but most importantly from Cassava mosaic disease (CMD). In the 1990s, an outbreak of severe CMD epidemic associated with a recombinant virus *East african cassava mosaic virus-Uganda variant* (EACMV-UG2) was observed in Uganda, causing serious crop devastation (Otim-Nape *et al.*, 1998). Through an aggressive research, CMD resistant cassava varieties were developed and deployed to control the disease. A nationwide survey was conducted in 2014 to determine the status of CMD in Uganda. We report the findings.

Materials and methods

Four hundred cassava fields of 3-6 months old plants were assessed in 50 major cassava growing districts in Uganda following a method described by Sseruwagi *et al.*, 2004. A total of 400 CMD symptomatic leaf samples were collected during the survey. DNA was extracted from the leaf samples using a protocol described by Dellaporta *et al.*, 1983 with some modification. Cassava mosaic begomoviruses (CMBs) were detected by PCR using *African cassava mosaic virus* (ACMV) and *East african cassava mosaic virus-Uganda Variant* (EACMV-UG2) specific primers as described by Harrison *et al.*, 1997.

Results and discussion

Overall, CMD occurred at low incidence (18.2%) and at moderate severity (2.2) countrywide. The results revealed a decline in the CMD incidence over the years (Fig. 1). Virus diagnostics results showed that ACMV was more prevalent (64%) than EACMV-UG2 (36%), the recombinant virus strain that was predominant in the CMD epidemic years.

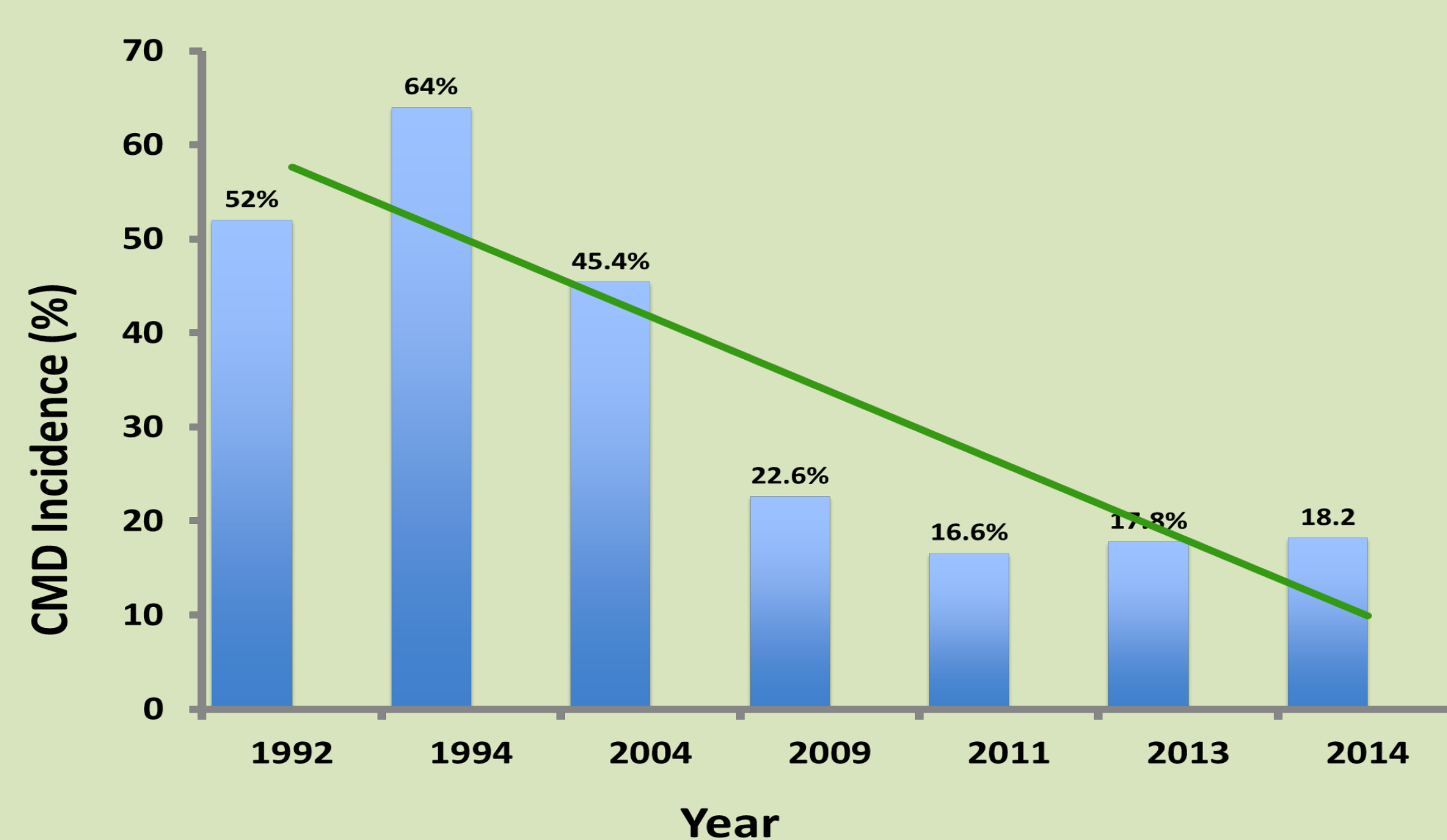


Fig. 1: CMD incidence over the years

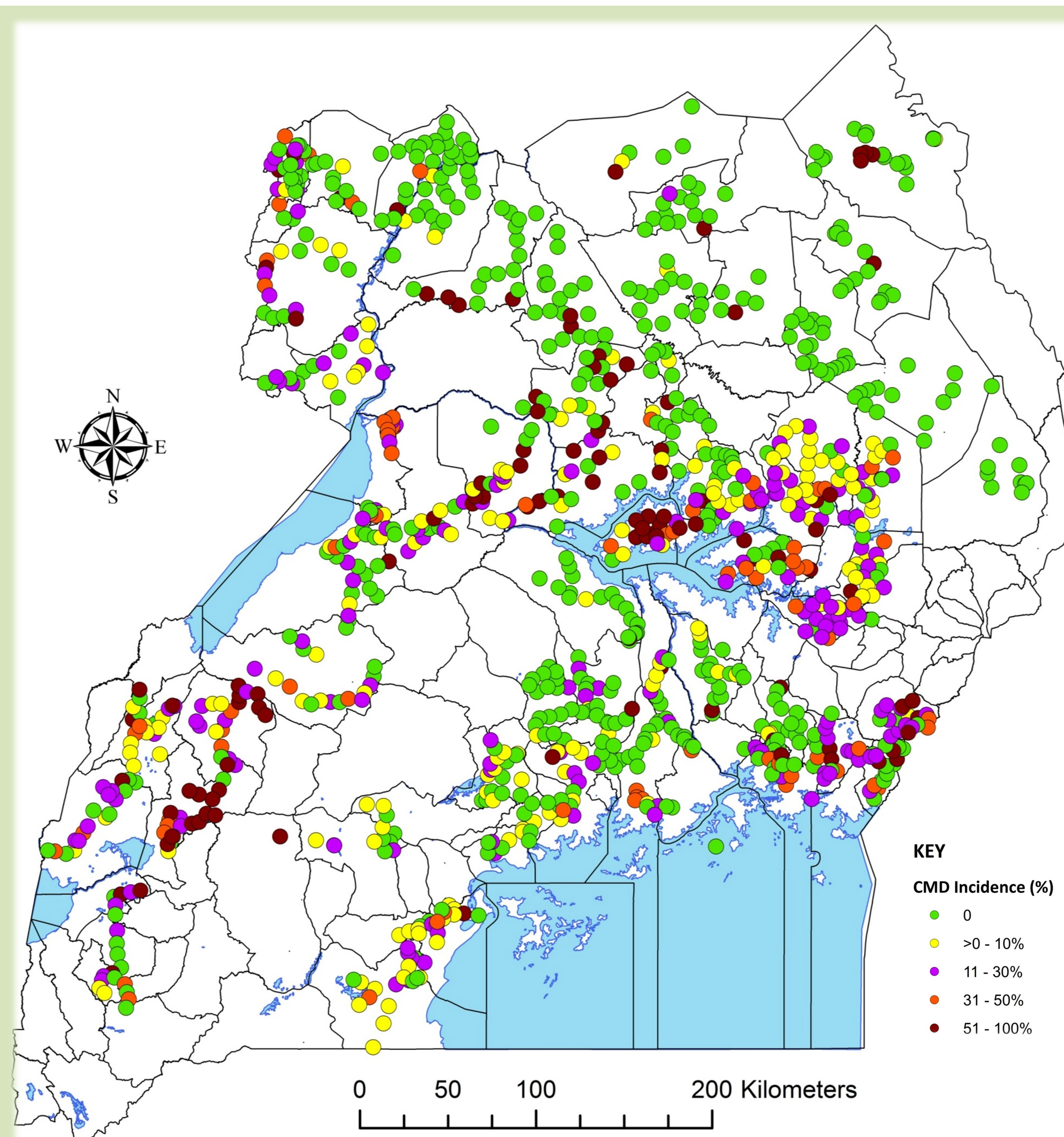


Fig. 2: CMD incidence in farmers fields in Uganda, 2014

Conclusion

- There is a decline in CMD incidence in Uganda.
- Contrary to the epidemic years, ACMV incidence has surpassed that of EACMV-UG2.
- CMD is still a challenge in Uganda. More effort needed to manage the disease at farm level.
- Farmer education recommended.

Reference

Dellaporta *et al.*, 1983. *Mol. Biol. Rep* **1**:19-21
Harrison *et al.*, 1997. *Ann. Appl. Bio.* **131**:437-448
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Sseruwagi *et al.*, 2004. *Virus Res.* **100**:129-14